

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claim in the application:

Listing of Claims:

Claim 1 (Currently Amended) An electromagnetic apparatus for automatically and selectively supplying and shutting off fluid, comprising:

a frame unit coaxially contained in piping or a housing forming the flow path of a fluid;

a through unit having ~~one or more~~ at least one through ~~holes~~ hole to form ~~one or more~~ at least one flow ~~paths~~ path through the said frame unit;

a coil unit ~~placed~~ disposed in the said frame unit to generate an electromagnetic force;

a rotor facing the said frame unit to selectively open and close the flow paths through interaction with the said electromagnetic force generated in the said coil unit;

a shaft supporting the said rotor; and

a casing supporting the said frame unit and forming an appearance of the said apparatus,

said electromagnetic apparatus comprises upper and lower portions.

said frame unit comprises upper and lower frames disposed in said upper and lower portions of said electromagnetic apparatus, respectively, and

said coil unit comprises coils that are disposed in said upper and lower frames, respectively, and are connected in serial to each other so that an attractive force and a repulsive force are simultaneously generated and applied to said rotor.

Claim 2 (Canceled).

Claim 3 (Canceled).

Claim 4 (Currently Amended) The electromagnetic apparatus ~~as set forth in~~ according to claim 1, wherein ~~the~~ said frame unit is provided with a core unit so that a magnetic path of ~~the~~ said electromagnetic force generated in ~~the~~ said coil unit is formed and ~~the~~ said rotor performs a holding operation after cutoff of power.

Claim 5 (Currently Amended) The electromagnetic apparatus ~~as set forth in~~ according to claim 1, wherein ~~the~~ said frame unit is integrally made of resin ~~so that durability is improved and an entire portion of the frame unit except for the flow paths is closed.~~

Claim 6 (Currently Amended) The electromagnetic apparatus ~~as set forth in~~ according to claim 1, wherein ~~the~~ said frame unit is provided with one or more flat or circular projections or sealing members at a top surface of ~~the~~ said frame unit, which makes contact with one surface of ~~th~~ said rotor, to prevent leakage of fluid at a time of shutoff.

Claim 7 (Currently Amended) The electromagnetic apparatus ~~as set forth in~~ according to claim 1, wherein ~~the~~ said frame unit is provided with shaft guide holes at centers thereof so that a shaft is supported to be rotated by ~~the~~ said shaft guide holes.

Claim 8 (Currently Amended) The electromagnetic apparatus ~~as set forth in~~ according to claim 1, wherein ~~the~~ said rotor is provided with protrusions on a first surface of ~~the~~ said rotor to allow higher and lower portions to exist in a same circle and, thus, form flow paths, and one or more flat or circular projections or sealing members on a second surface of ~~the~~ said rotor, which makes ~~contace~~ contact with ~~the~~ said frame unit, to prevent leakage of fluid at a time of shutoff.

Claim 9 (Currently Amended) The electromagnetic apparatus ~~as set forth in~~ according to claim 1, wherein ~~the~~ said frame unit is provided with a coil so that ~~the~~ said rotor is opened or closed by an attractive force or a repulsive force.

Claim 10 (New) An electromagnetic apparatus for automatically and selectively supplying and shutting off fluid, comprises:

- a frame unit coaxially contained in piping or a housing forming the flow path of a fluid;
- a through unit having at least one through hole to form at least one flow path through said frame unit;
- a coil unit disposed in said frame unit to generate an electromagnetic force;
- a rotor facing said frame unit to selectively open and close the flow paths through interaction with said electromagnetic force generated in said coil unit;
- a shaft supporting said rotor; and
- a casing supporting said frame unit and forming an appearance of said apparatus;

wherein said frame unit is provided with one or more flat or circular projections or sealing members at a top surface of said frame unit, which makes contact with one surface of said rotor, to prevent leakage of fluid at a time of shutoff.

Claim 11 (New) An electromagnetic apparatus according to claim 10, wherein:

- said electromagnetic apparatus comprises upper and lower portions;
- said frame unit comprises upper and lower frames placed in said upper and lower portions of said electromagnetic apparatus, respectively; and

said coil unit comprises coils that are disposed in said upper and lower frames, respectively, and are connected in serial to each other so that an attractive force and a repulsive force are simultaneously generated and applied to said rotor.

Claim 12 (New) An electromagnetic apparatus according to claim 1, wherein said frame unit is provided with a core unit so that a magnetic path of said electromagnetic force generated in said coil unit is formed and said rotor performs a holding operation after cutoff of power.

Claim 13 (New) An electromagnetic apparatus according to claim 10, wherein said frame unit is integrally made of resin.

Claim 14 (New) An electromagnetic apparatus according to claim 10, wherein said frame unit is provided with shaft guide holes at centers thereof so that a shaft is supported to be rotated by said shaft guide holes.

Claim 15 (New) An electromagnetic apparatus according to claim 10, wherein said rotor is provided with protrusions on a first surface of said rotor to allow higher and lower portions to exist in a same circle and, thus, form flow paths, and one or more flat or

circular projections or sealing members on a second surface of said rotor, which makes contact with said frame unit, to prevent leakage of fluid at a time of shutoff.

Claim 16 (New) An electromagnetic apparatus according to claim 10, wherein said frame unit is provided with a coil so that said rotor is opened or closed by an attractive force or a repulsive force.

Claim 17 (New) An electromagnetic apparatus for automatically and selectively supplying and shutting off fluid, comprises:

a frame unit coaxially contained in piping or a housing forming the flow path of a fluid;

a through unit having at least one through hole to form at least one flow path through said frame unit;

a coil unit disposed in said frame unit to generate an electromagnetic force;

a rotor facing said frame unit to selectively open and close said flow paths through interaction with said electromagnetic force generated in said coil unit,

a shaft supporting said rotor;

a casing supporting said frame unit and forming an appearance of said apparatus;

and

said rotor is provided with protrusions on a first surface of said rotor to allow higher and lower portions to exist in a same circle and, thus, form flow paths, and one or more flat or circular projections or sealing members on a second surface of said rotor, which makes contact with said frame unit, to prevent leakage of fluid at a time of shutoff.

Claim 18 (New) An electromagnetic apparatus according to claim 17, wherein:
said electromagnetic apparatus comprises upper and lower portions;
said frame unit comprises upper and lower frames disposed in said upper and lower portions of said electromagnetic apparatus respectively; and
said coil unit comprises coils that are disposed in said upper and lower frames, respectively, and are connected in serial to each other so that an attractive force and a repulsive force are simultaneously generated and applied to said rotor.

Claim 19 (New) An electromagnetic apparatus according to claim 17, wherein said frame unit is integrally made of resin.

Claim 20 (New) An electromagnetic apparatus according to claim 17, wherein said frame unit is provided with one or more flat or circular projections or sealing

members at a top surface of said frame unit, which makes contact with one surface of said rotor, to prevent leakage of fluid at a time of shutoff.

Claim 21 (New) An electromagnetic apparatus according to claim 17, wherein said frame unit is provided with shaft guide holes at centers thereof so that a shaft is supported to be rotated by said shaft guide holes.

Claim 22 (New) An electromagnetic apparatus according to claim 17, wherein said frame unit is provided with a coil so that said rotor is opened or closed by an attractive force or a repulsive force.